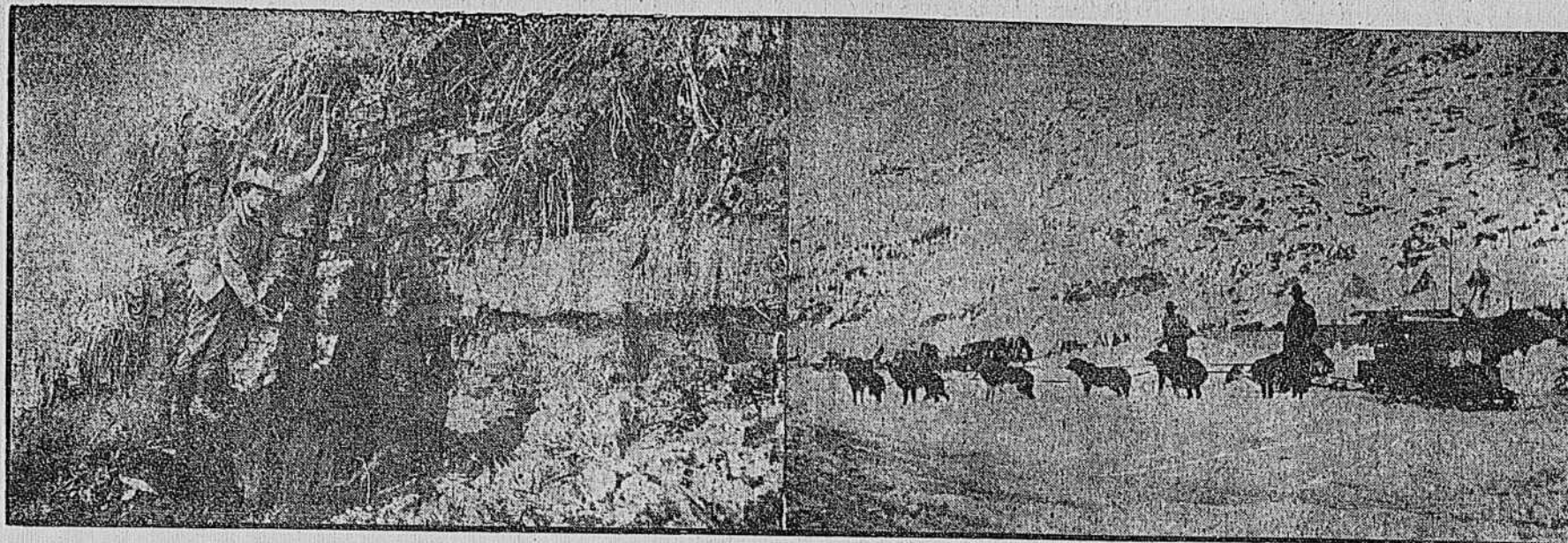
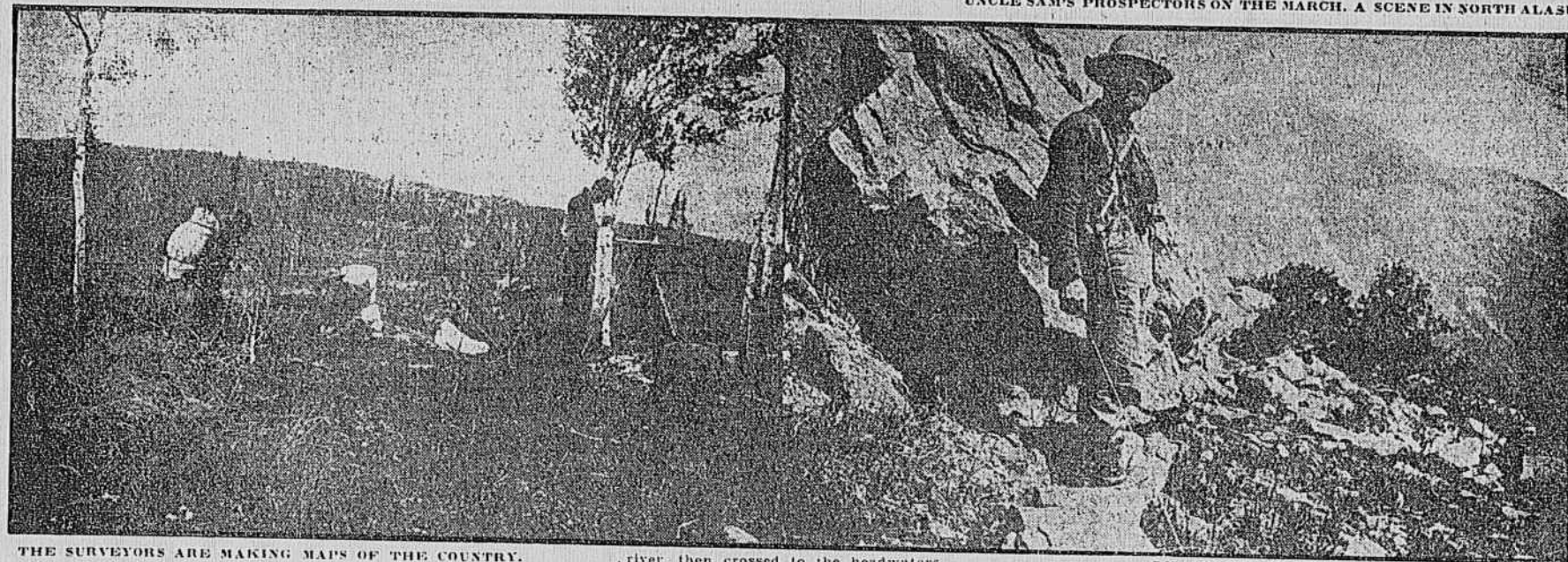


Coal of Alaska---Where the Beds Are and What They Are Worth. It Will Cost \$15,000,000 to Bring the First Ton to Market



ONE OF UNCLE SAM'S NEW COAL BEDS.



UNCLE SAM'S PROSPECTORS ON THE MARCH. A SCENE IN NORTH ALASKA.

THE SURVEYORS ARE MAKING MAPS OF THE COUNTRY.

BY FRANK G. CARPENTER.

Washington, D. C.

I write to-day of one of the best investments of Uncle Sam's treasury. One fatherly relative is a shrewd speculator. He makes millions in real estate, and his chief land investments have paid many thousand per cent. The first was the Louisiana purchase, by which the French sold us a territory ten times as large as the State of Illinois. That block of land cost about 3 cents an acre. It is now worth \$50 and upward per acre and it annually yields crops to the amount of thousands of millions of dollars. It is producing more than a billion bushels of corn and two hundred and fifty million bushels of wheat every year and is feeding live stock valued at over nine hundred millions.

The Wealth of Alaska.

The purchase I speak of to-day is that of Alaska. Uncle Sam bought it for Russia for less than 2 cents an acre forty-four years ago. He has already realized more than sixty times the amount of his original investment, and he does not yet know what he owns. The land is netting us 400 per cent every year, and it will go up to 1,000 per cent in the future. We paid for it a little more than several million dollars. We have already taken out over four hundred millions. We got more than the purchase price out of the two or three little seal islands, and the salmon fisheries are now bringing in over ten million dollars per annum. The yearly output of gold is close to twelve millions, and by the end of this year we shall have realized more than thirty times its cost from the minerals alone.

These are big figures, but they are only pin pricks on the surface of that land of ice and snow. The most of the gold so far taken out has been from placers, and there are quartz deposits of incalculable value. Alaska has copper beds which bid fair to

flood the markets of the world, and its coal veins are estimated to contain billions of tons of black diamonds.

With Uncle Sam's Prospectors. During the past week I have been looking over the latest government investigation of this mighty property. As soon as it came into our hands Uncle Sam sent his experts to explore it, and for the past generation they have been taking it up section by section, climbing the mountains and tramping over the plains and plateaus, making maps of the land and prospecting for mineral wealth.

The greater part of the work has been done by the Geological Survey, which keeps three divisions of men in the field. One of these, including three parties, is devoted to mapping the country and giving its topography. It is making plans from which you can tell all the hills and hollows, the height of the mountains and depth of the valleys. Another division is examining the water powers, and a third, and I should say, the most important of all, is composed of a dozen different companies of geologists, who are looking into the minerals and accumulating data as to the coal, iron, copper and gold which the country contains.

The mineral branch of the survey is now under the charge of Dr. Alfred H. Brooks, who has spent more than thirteen years in the work of exploring Alaska, and who knows more about the country than any other man in the world. He has written a geography and geology of Alaska, and with his scientific assistants has spent about five months every year for the past thirteen years in making explorations. With a view to the mineral wealth, his parties have gone through the wilds on foot and in boats, carrying their canoes from stream to stream, and making long tours, during which their baggage has been carried on sleds and drawn by dogs. They have traveled to the headwaters of one stream or

river, then crossed to the headwaters of another and down that, until they have explored altogether many thousand square miles. It is from talks with Dr. Brooks that I am able to give much of the information contained in this letter.

Alaska From an Aeroplane.

In the first place let us take a flying machine view of Alaska. I have gone over the maps with the geologists, and the country is like nothing I have ever imagined. We shall suppose that we have taken one of Orville Wright's aeroplanes and have sailed across it from the Pacific Ocean to the Arctic, and from British Columbia to Siberia in Russia. What a big land it is! Beginning at the southeast on the Pacific, where the land joins British Columbia, and flying straight north, we go almost as far as from New York to Cincinnati before we reach the coast of the Arctic Ocean, and from the same point, flying westward, we should go 700 miles before arriving at Bering Sea. Roughly speaking, Alaska would make a square with more than 700 miles on each side, and still leave enough land over to form two States the size of New York.

It is almost as large as the combined area of Germany, France and the Spanish peninsula, and if it were lifted up and dropped down on the United States proper it would cover all of the States which border the Atlantic from Maine down to Florida.

Dr. Brooks tells me that Alaska has in general about the same features as the western half of the United States. It is composed of three or four great regions. There are two ranges of mountains upholding a high plateau between them, with a wide stretch of Arctic plain at the north. The Southern Mountains correspond to the Sierra Nevada and other ranges, which bound the western side of the Rocky Mountain plateau. North of them is a region of plains corresponding to that plateau, and on the other side is a range of mountains which corresponds to the Rockies, with plains beyond like the great plains farther south. The latter are the tundras of the Arctic slope. They are covered with a thick growth of moss, which ends at the sea and for many miles inland is bedded on perpetually.

The mountains are wooded. Those at the south have a vegetation as dense as the jungles of tropical countries, and the whole southern slope has a rainfall which in places aggregate more than 100 inches per year. Across the mountains we find an arid region where the rainfall is scanty. It is not as dry as the great plains of the Rocky Mountain plateau, but so dry that the vegetation is scrubby, and the big trees disappear. It is through this region that flow the chief rivers which are fed by the snows of the mountains. The Yukon, which runs for 1,500 miles from the Canadian boundary to Bering Sea, is the largest, and the Kuskokwim, which flows through the same plateau farther south, comes next. The plateau where it joins British Columbia is about as high as the average altitude of the Alleghany Mountains, and it slopes from there north to the sea.

Of this rough territory Dr. Brooks tells me that only about one-fifth of the whole has been geologically explored. The geologists have gone over the most accessible and most desirable parts of it and have tramped across the other portions, making explorations here and there, so that in general they know about what the country contains and have specific knowledge of at least one-fifth of it.

A great part of our conversation to-day related to the coal fields, which are now attracting so much attention in the minds of the people. Dr. Brooks says there is coal all over Alaska, and that the beds are of such an enormous extent that they probably contain hundreds of billions of tons, and there is no doubt that they contain at the least 15,000,000,000. This can be explained by the fields which have been more or less carefully tested, but it is safe to say that at the minimum estimate the coal amounts to 150,000,000,000 tons, and that it may be many times that amount. The coal resources are far in excess of those of the Appalachians, although a greater part of

Dr. Alfred H. Brooks, Geologist in charge.

Taken in wilds of Alaska.

the coal is of a far lower grade. One hundred and fifty billion tons! The figures are large and the mind cannot comprehend them. All these coal mines of the world are now producing just one billion tons per annum, and at the rate if this coal were accessible it would supply the whole world for 150 years and probably leave much to spare.

If the coal amounts to only fifteen billion tons it would heat and move the world for fifteen years, and if we had it on shipboard or in the markets it would make us rich beyond the dreams of avarice. I have seen the value estimated in billions of dollars. It would be worth that if it could be dumped down a few tons at a time in the chief markets of the world, but as it lies now the statement makes one think of the words of the Japanese schoolboy: "It is to laugh." Of the fifteen billion tons which are the minimum figures of the geologists' estimates, about four and one-half billions are on the Arctic slope, where it is locked in ice for most of the year. It is beyond ranges of mountains, which could hardly be crossed, and on seas from where the coal could not be carried to any market on earth. Another four billions or more lie in the interior of Alaska, in the plateau region of which I have written, and it is safe to say that it will never be worth anything except for local consumption. The greater part of the balance, comprising more than six billion tons by conservative estimates, is in southeastern Alaska. These last beds are a live working quantity, and they will some day have a great part in the industry and wealth of that half a continent.

In my talk with Dr. Brooks I asked him as to the government values of these lands. He replied that all are now withheld from sale, pending the government investigation and the trouble concerning the titles, and that

he had estimated their value at a half a cent a ton in the ground. This seems ridiculously low, but even at this rate, he says, the lands near the Pacific coast would be worth from \$50 to \$500 per acre.

I here ventured a suggestion that if Pierpont Morgan or one of the Guggenheims wished to perpetuate his wealth he might invest \$100,000 in such lands with the understanding that they were to be mined only by his great-grandchildren one hundred years from now.

"It would seem so," replied Dr. Brooks, but we have had a discussion concerning prospective values that makes that matter a very questionable one. Even if the lands could be bought at \$10 an acre, which has been the law as to the public coal lands of Alaska, and should be kept 100 years, they would have to yield a big amount of coal to pay the interest charges. I have had one of the financiers figuring upon the possibilities.

He says that at \$10 an acre the investment in 100 years by annually compounding the interest at 5 per cent would make every acre there cost \$254, not counting the taxes. Now, if the investment were \$100,000 instead of \$10 the interest charges and principal in 100 years would amount to the enormous sum of \$263,400,000, or if it were a million dollars the total cost of the land would then be \$263,400,000. You must also remember that the coal has to be still gotten out of the earth, and that you cannot be absolutely sure as to just what is under the ground. In all this we have left out the question of taxes, which would go up as the other coal mines nearby were developed, so that there is great doubt to the advisability of a century holding of Alaska coal."

The Market for Coal.

I went with Dr. Brooks over the maps of his recent explorations and took a look at the Bering River and Matanuska coal fields, which are now being discussed. Neither is far from the sea, and the Guggenheims have already built a railroad which is not more than twenty-five miles away from the Bering River beds. The coal of this region is excellent, varying from anthracite to valuable semi-bituminous. The beds cover something like forty square miles, and they will yield from 10,000 to 100,000 tons to the acre. The Matanuska field is a much farther away, and it is probable that there are other fields in the immediate vicinity. This coal could be made quickly available, and it would command a good price in the market.

In talking with Dr. Brooks I was told that the coal trade of the Pacific is now largely monopolized by the British, who are working valuable mines on Vancouver Island, from which they supply Puget Sound, San Francisco and other places. The Vancouver coal delivered at tidewater sells for as high as \$1.50 a ton, and is sold at wholesale in Seattle at \$5. In California coal is now bringing from \$6 to \$18 a ton, and on the Pacific seaboard of Alaska the retail prices run from \$8 to \$15 per ton. At Nome coal is selling for from \$18 to \$25, and these prices will probably continue until the Alaskan coal fields are opened. Just at present there are some lignite fields being worked on the Seward Peninsula. This is contrary to law, and the miners have been warned to desist. They are far off in the wilderness, however, and the warnings are not heeded.

Japan and Our Coal Fields.

In view of the present talk of a possible war with Japan, the Bering River coal beds assume great importance as a supply point of the ships of our navy. In such an event much of our coal would have to be shipped by rail across the continent or be carried about through the Strait of Magellan to San Francisco. In the latter case it is estimated that at least one-fifth of every cargo brought would be used up in steaming that distance, and this would be in addition to the cost of the coal itself. The freight rates by rail would be enormous. The Bering

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River coal beds are about 1,200 miles by water from Puget Sound, and they are not far from the excellent harbor of Cordova Bay. They might be defended by some of the great ships of our navy, or Japan might rush there with a part of her fleet and capture the coal supplies. All she would need to do would be to take about twenty-five miles of railroad material along and extend the present Guggenheim line to the beds. Such a possibility is probably well known to the War Department of both nations, and it is safe to say that the United States would be on the ground first.

Coal Versus Petroleum.

At present the oil fields of California are competing for the fuel trade in the markets of the Pacific. Many of the steamers are now using oil, and oil is largely employed on the railroads. It is sold for fuel in all the Pacific Coast States and Territories, and its use increases each year. In 1908 the oil consumed was equal to 12,000,000 tons of coal, whereas the coal alone was considerably less than half that.

This is a factor that must be considered in connection with the Alaskan coal when it comes into the market, and another factor is the coal that will come through the Panama Canal. Dr. Brooks has figures which show that when the canal is completed eastern coal can be landed in San Francisco at \$4.50 a ton. This means putting it on the ship at the Atlantic coast ports at a cost of \$2 per ton, paying a freight of \$2 and a canal tonnage of about 45 cents. He says

also that it is estimated that it will cost about \$450 a ton to put the Alaskan coal into San Francisco. So you see it is quite a question whether the Alaskan coal beds will not have to fight for the market.

For the same reason the Panama Canal will affect the coal trade of the States along the west coast of South America. Those countries can be supplied from Alaska, but the canal will make them accessible to our Atlantic coal fields and they will probably be supplied from the mines of both places.

As to Alaska itself, there can be little development in that country until the coal fields are opened. Railroads are impossible at the high coal rates of to-day, and all industry is lagging there for cheap fuel. It will take a big sum of money to construct the railroads and open the mines, and the money can only be supplied by organized capital. Dr. Brooks estimates that the first ton of coal shipped out of the Bering field will have cost at least \$15,000.00 by the time it is on the way to the consumer, and that from then on the cost will fall until it is somewhere near the five or ten dollars, which the people will pay. I have no sympathy with the Guggenheim goblins, but the individual miner can do nothing alone, and the government will have to adopt regulations that will enable capital to develop the beds at a reasonable profit. Whether this can be accomplished without a material change in Uncle Sam's plans remains to be seen. (Copyright, 1911, by Frank G. Carpenter.)

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